Appl. No.   :   10/765,001
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AMENDMENTS TO THE CLAIMS

1.   (Original) A method for high-speed precise dispensing of microfluidic quantities of a reagent onto or into a target, comprising:

providing a dispenser adapted to form droplets of said reagent;

providing a positive displacement pump in fluid communication with said dispenser for metering precise quantities of said reagent to said dispenser;

providing a controller for controlling and coordinating the volume of said reagent dispensed at predetermined locations on or in said target; and

creating a user-defined text file containing lists of white space delimited numbers defining a dispense pattern that is to be formed on or in said target, said text file being accessible by said controller through a software program such that rapid and accurate dispensing is performed.

2.   (Original) The method of Claim 1, further comprising aspirating said reagent from a receptacle prior to dispensing of said reagent.

3.   (Original) The method of Claim 1, wherein said software program has programmed into it a preset droplet dispense volume which cumulatively determines the total volume dispensed at each of said locations.

4.   (Original) The method of Claim 1, wherein said dispenser comprises a solenoid valve adapted to be opened and closed at a predetermined frequency.

5.   (Original) The method of Claim 4, wherein said valve is operated at a frequency such that its operation is mechanically modulated so that it remains open in oscillation to facilitate ejection of a predetermined volume of said reagent.

6.   (Original) The method of Claim 5, wherein said predetermined volume is in the range from about 1 nL to about 100 nL.

7.   (Original) The method of Claim 5, wherein said predetermined volume is dispensed in the form of multiple droplets of variable size.

8.   (Original) The method of Claim 1, wherein said text file is created by a transformation of data using spreadsheet formulas.

9.   (Original) The method of Claim 1, wherein said white space comprises a tab.

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10.   (Original)   The method of Claim 1, wherein said white space comprises a carriage return.

11.   (Withdrawn)   A method for high speed precise dispensing of a microfluidic quantity of a reagent onto or into a target, comprising the steps of:

positively displacing a precise quantity of said reagent to a dispenser;

forming a volume of said reagent for ejection from said dispenser onto or into said target by opening and closing a solenoid valve at a frequency such that its operation is mechanically modulated so that it remains open in oscillation to facilitate ejection of said volume, said volume being of an integral multiple of said precise quantity and less than or equal to said microfluidic quantity; and

controlling and coordinating said volume of said reagent dispensed at a predetermined location on or in said target.

12.   (Withdrawn)   The method of Claim 11, wherein said volume is in the range from about 2 nL to about 20 nL.

13.   (Withdrawn)   The method of Claim 11, wherein said volume is in the range from about 1 nL to about 100 nL.

14.   (Withdrawn)   The method of Claim 11, wherein said volume is in the range from about 0.1 nL to about 1000 nL.

15.   (Withdrawn)   The method of Claim 11, wherein said volume is dispensed in the form of multiple droplets.

16.   (Withdrawn)   The method of Claim 15, wherein said volume is dispensed in the form of multiple droplets of varying size.

17.   (Withdrawn)   The method of Claim 11, wherein said volume is dispensed in the form of a jet.

18.   (Withdrawn)   The method of Claim 11, wherein said frequency at which said solenoid valve is operated is about 6000 Hz.

19.   (Withdrawn)   The method of Claim 11, further comprising aspirating said reagent from a receptacle prior to dispensing of said reagent.

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20.   (Withdrawn)   The method of Claim 11, further comprising creating a user-defined text file to define a reagent dispense pattern or array that is to be formed on or in said target.

21.   (Withdrawn)   The method of Claim 20, wherein said text file comprises a list of tab-delimited numbers.

22.   (Withdrawn)   The method of Claim 20, wherein said text file is created by a transformation of raw data in a spreadsheet template.

23.   (Withdrawn)   The method of Claim 20, wherein said text file is accessible by a controller to control and coordinate said volume of said reagent.

24.   (Withdrawn)   The method of Claim 11, wherein the volume of said reagent is formed substantially outside said dispenser.

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